

IN THE CLAIMS

Please add claims 28 – 30, and further amend the claims as shown below. This listing of the claims replaces all prior versions.

1. (canceled)

2. (canceled)

3. (currently amended) An illumination system for lithography with wavelengths of ≤ 193 nm comprising:

- (a) a first optical element, which is divided into first raster elements and lies in a first plane, wherein said first plane defines an x-direction and a y-direction, wherein said first raster elements each ~~have~~ has an ~~x-direction~~ x-dimension and a ~~y-direction~~ y-dimension with an aspect ratio, and wherein at least two of said first raster elements have aspect ratios of different ~~magnitude~~ magnitudes; and
- (b) a second optical element, which is divided into second raster elements, wherein ~~a second raster elements is assigned to a first raster element~~ each of said second raster elements is in a light path from a corresponding one of said first raster elements, wherein the illumination system defines a field, wherein said field is illuminated in an object plane of the illumination system, and wherein at least some of said second raster elements have an anamorphic optical effect, which is selected such that an aspect ratio of images of said first raster elements is substantially the same in said object plane, independent of said aspect ratio of said first raster elements.

4. (previously presented) The illumination system according to claim 3, wherein at least one of said at least two first raster elements with aspect ratios of different magnitude has an anamorphic optical effect.

5. (previously presented) The illumination system according to claim 3, wherein said at least two first raster elements with aspect ratios of different magnitude have an isotropic optical effect.

6. (previously presented) The illumination system according to claim 5, wherein said first raster elements have an isotropic optical effect.

7. (previously presented) The illumination system according to claim 4, wherein said first raster elements that have an anamorphic optical effect are of a shape selected from the group consisting of cylinders and toroids.

8. (previously presented) The illumination system according to claim 3, wherein said second raster element that has an anamorphic optical effect is of a shape selected from the group consisting of cylinders and toroids.

9. (currently amended) An illumination system for lithography with wavelengths of ≤ 193 nm comprising:

a first optical element, which is divided into first raster elements and lies in a first plane; and an object plane;

wherein said first raster elements each ~~have~~ has an x-dimension and a y-dimension with an aspect ratio,

wherein at least two of said first raster elements have aspect ratios of different ~~magnitude~~ magnitudes,

wherein said first raster elements are arranged on a support structure in a plurality of rows,

wherein at least one of said plurality of rows includes at least two of said first raster elements,

and

wherein said illumination system produces a two-dimensional image of said first raster elements in said object plane.

10. (previously presented) The illumination system according to claim 9, further comprising a collector unit, which illuminates said first plane with said first raster elements.

11. (previously presented) The illumination system according to claim 9, further comprising at least one field mirror.

12. (previously presented) The illumination system according to claim 3, further comprising at least one field mirror, wherein said second raster elements and said at least one field mirror image said assigned first raster elements in an object plane of the illumination system.

13. (previously presented) The illumination system according to claim 9, wherein said first raster elements are rectangular.

14. (currently amended) An illumination system for lithography with wavelengths of ≤ 193 nm comprising:

a first optical element, which is divided into first raster elements and lies in a first plane, wherein said first raster elements each ~~have~~ has an x-dimension and a y-dimension with an aspect ratio,

wherein at least two of said first raster elements have aspect ratios of different magnitude, wherein said first raster elements are arranged on a support structure in a plurality of rows, wherein at least one of said plurality of rows includes at least two of said first raster elements,

wherein the illumination system defines a field to be illuminated in an object plane of the illumination system,

wherein said field represents a segment of a ring field,

wherein said first raster elements are mirrors, and

wherein said illumination system produces a two-dimensional image of said first raster elements in said object plane.

15. (currently amended) A projection exposure system for microlithography, comprising:

- (a) an illumination system for lithography with wavelengths of ≤ 193 nm having:
- a first optical element, which is divided into first raster elements and lies in a first plane;
 - and
 - an object plane;
 - wherein said first raster elements each ~~have~~ has an x-dimension and a y-dimension with an aspect ratio,
 - wherein at least two of said first raster elements have aspect ratios of different magnitude,
 - wherein said first raster elements are arranged on a support structure in a plurality of rows,
 - wherein at least one of said plurality of rows includes at least two of said first raster elements,
 - wherein said first raster elements are mirrors, and
 - wherein said illumination system produces a two-dimensional image of said first raster elements in said object plane; and
 - an exit pupil;
- (b) a pattern-bearing mask situated in said object plane;
- (c) a projection device, with an entrance pupil, which coincides with the exit pupil of the illumination system, wherein said projection device images an illuminated portion of said pattern-bearing mask in an image field of said projection device; and
- (d) a light-sensitive substrate situated in a plane in which said image field is situated.

16. (previously presented) A method for producing microelectronic components, comprising using the projection exposure system according to claim 15.

17. (canceled)

18. (canceled)

19. (currently amended) The illumination system according to claim 9, further comprising:
a second optical element, which is divided into second raster elements,

~~wherein a second raster element is assigned to a first raster element~~ each of said second raster elements is in a light path from a corresponding one of said first raster elements, and
wherein at least one second raster element has an anamorphic optical effect.

20. (currently amended) An illumination system, comprising:

an optical element having ~~a first raster element on a support structure and a second raster element on said~~ a plurality of raster elements arranged in a plurality of rows on a support structure,
wherein at least one of said plurality of rows includes at least two of said plurality of raster elements,

~~wherein said first raster element has a first aspect ratio,~~

~~wherein said second raster element has a second aspect ratio,~~

wherein said plurality of raster elements includes a first raster element having a first aspect ratio and a second raster element having a second aspect ratio,

wherein said first raster element is a first mirror and said second raster element is a second mirror,

wherein said first aspect ratio is not equal to said second aspect ratio,

wherein the illumination system defines a field to be illuminated in an object plane of the illumination system,

wherein said field represents a segment of a ring field, and

wherein said illumination system produces a two-dimensional image of said first raster element in said object plane.

21. (currently amended) An illumination system for radiation wavelengths of ≤ 193 nm, comprising:

an optical element having ~~a first raster element in a plane on a support structure and a second raster element in said plane on said~~ a plurality of raster elements arranged in a plurality of rows on a support structure,
wherein at least one of said plurality of rows includes at least two of said plurality of raster elements,

wherein said ~~first and second raster elements~~ plurality of raster elements includes a first raster element and a second raster element that are of different sizes, and
wherein said first raster element is a first mirror and said second raster element is a second mirror,
wherein the illumination system defines a field to be illuminated in an object plane of the illumination system,
wherein said field represents a segment of a ring field, and
wherein said illumination system produces a two-dimensional image of said first raster element in said object plane.

22. (canceled)

23. (canceled)

24. (previously presented) The illumination system according to claim 20, wherein said support structure is a raster element plate.

25. (previously presented) The illumination system according to claim 21, wherein said support structure is a raster element plate.

26. (currently amended) An illumination system for radiation of wavelengths ≤ 193 nm, comprising:

an optical element having a plurality of raster elements arranged in a plurality of rows ~~a first raster element situated substantially in a plane and a second raster element situated substantially in said plane,~~
wherein at least one of said plurality of rows includes at least two of said plurality of raster elements,
wherein said ~~first and second raster elements~~ plurality of raster elements includes a first raster element and a second raster element that are of different sizes, and

wherein said first raster element is a first mirror and said second raster element is a second mirror,
wherein the illumination system defines a field to be illuminated in an object plane of the illumination system,
wherein said field represents a segment of a ring field, and
wherein said illumination system produces a two-dimensional image of said first raster element in said object plane.

27. (canceled)

28. (new) The illumination system of claim 9, further comprising:
a source of light,
wherein said first raster elements are arranged on said support structure in an area that is illuminated by said light, and
wherein said first raster elements cover at least 95% of said area.

29. (new) The illumination system according to claim 9, wherein said at least two of said first raster elements having aspect ratios of different magnitudes have x-dimensions that are substantially equal, and y-dimensions that are different.

30. (new) An illumination system for lithography with wavelengths of ≤ 193 nm comprising:
an optical element having a plurality of raster elements arranged on a support structure in a plurality of rows,
wherein at least one of said plurality of rows includes at least two of said plurality of raster elements,
wherein said raster elements each has a height and a width with an aspect ratio, and
wherein at least two of said raster elements have aspect ratios of different magnitude; and
an object plane,

wherein said illumination system produces a two-dimensional image of said raster elements in said object plane.